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ABSTRACT

This book presents a rationale for developing new approaches to conceptualizing the costs associated with the implementation and operation of models supporting comprehensive, community-based support systems (CCBSS) for children. CCBSS are broad-based approaches that have no single model or specification for reform; the configuration of the model is dependent on the needs, values, and perspectives of the community in which it is developed and implemented. Sections of this paper discuss various models in terms of conducting a flexible community-based cost analysis, identifying the resources needed to support the model, adjusting for marginal cost, and the distribution of cost. A cost template is presented to guide local policymakers through a systematic consideration of the total and marginal costs of the resources necessary to operate CCBSS models in their own communities. The template is intended to be a useful tool for policymakers in early planning stages--as well as those interested in monitoring the costs of initiatives already in operation--to gain a better sense of the types, amounts, and distribution of costs associated with various models of CCBSS. The template is applied to a sample model of a CCBSS. A final section draws conclusions from the previous sections and suggests next steps that should be taken in field-testing and expanding the template. (ET)

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CONCEPTUALIZING THE COSTS OF COMPREHENSIVE, COMMUNITY-BASED SUPPORT SYSTEMS FOR CHILDREN

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CONCEPTUALIZING THE COSTS OF COMPREHENSIVE, COMMUNITY-BASED SUPPORT SYSTEMS FOR CHILDREN

November 1995

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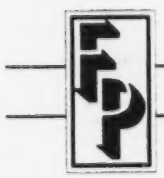

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PREFACE

Public financing for education and an array of other children's services has become a topic of significant interest and political concern. Growing skepticism among a critical mass of American voters and taxpayers has fueled doubts about the ability of government to solve social problems and provide basic supports and services that enhance the quality of life in their communities. Voters spoke clearly in November 1994. They want more for their money. They want more and better services, but they also want balanced budgets and cuts in income and property taxes. In this time of big public deficits, they want government at all levels to operate more effectively and efficiently. They also want it to invest wisely and live within its means. On Capitol Hill on Washington, DC and in statehouses nationwide, policymakers are scrambling to respond.

Across the country, there is mounting evidence of efforts to reform and restructure education and other community supports and services in order to improve the lives and future prospects of children and their families. Critical to the success of these initiatives is the way in which they are financed. How revenues are generated and how funds are channeled to schools, human service agencies, and community development initiatives influence what programs and services are available. It determines how they are provided and who benefits from them. Financing also affects how state and local officials define investment and program priorities, and it creates incentives that guide how educators, other service providers, and community volunteers do their jobs. For these reasons, financing fundamentally affects how responsive programs and institutions are to the needs of the people and communities they are in business to serve.

In recent years, several blue ribbon commissions and national task forces have presented ambitious prescriptions for reforming and restructuring the nation's education, health, and human service systems in order to improve outcomes for children. While some have argued that public financing and related structural and administrative issues are critical to efforts to foster children's healthy development and school success, none has been framed for the specific purpose of inventively reconceptualizing public financing. Indeed, many of the most thorough and thoughtful reports have called for an overlay of new funds, but have neglected to provide cogent analyses of effective financing strategies, the costs of converting to these approaches, and the potential beneficial outcomes that might accrue from addressing financing reform as an integral aspect of program reform.

In addition, the past several years have witnessed a burgeoning of experimental efforts by mayors and city managers, governors and state agency directors, legislators and council members, program managers and school officials to make government work better and more efficiently. They have been enhanced by the work of people outside of government, including foundation executives, business and labor leaders, community organizers, and academic scholars. Some are creating new ways to raise revenues, manage schools, deliver human services, and spur community economic development. Others are designing new public governance and budgeting systems. Still others are developing and testing new approaches to more directly involve citizens in setting public priorities and maintaining

accountability for public expenditures. Taken together, these efforts suggest the nascent strands of new and improved public financing strategies.

Against this backdrop, a consortium of national foundations established The Finance Project to improve the effectiveness, efficiency, and equity of public financing for education and an array of other community supports and services for children and their families. Over a three-year period that began in January 1994, The Finance Project is conducting an ambitious agenda of policy research and development activities, as well as policymaker forums and public education. The aim is to increase knowledge and strengthen the capability of governments at all levels to implement strategies for generating and investing public resources that more closely match public priorities and more effectively support improved education and community systems.

As a part of its work, The Finance Project produces a series of working papers on salient issues related to financing for education and other children's services. Some are developed by project staff; others are the products of efforts by outside researchers and analysts. Many are works in progress that will be revised and updated as new information becomes available. They reflect the views and interpretations of the authors. By making them available to a wider audience our intent is to stimulate new thinking and induce a variety of public jurisdictions, private organizations, and individuals to examine the ideas and findings they present and use them to advance their own efforts to improve public financing strategies.

This paper, *Conceptualizing the Costs of Comprehensive, Community-based Support Systems for Children* was prepared by Jennifer King Rice. It presents the rationale for developing new approaches to conceptualizing the costs associated with the implementation and operation of models supporting comprehensive, community-based reform. In addition, it explores issues associated with assessing the costs of creating and operating community-based supports, and provides a preliminary template to guide local policymakers and practitioners through a systematic consideration of the total and marginal costs of resources required to operate such initiatives. This paper was prepared as a part of the work of The Finance Project's Working Group on Financing Comprehensive, Community-based Support Systems.

Cheryl D. Hayes
Executive Director

INTRODUCTION

A variety of services are targeted to children at various stages during their development. These include immunization provisions, well child care, nutritional interventions, early child care and education programs, recreational programs, and the formal schooling process. While these services have typically been provided through a broad set of public and private organizations at the federal, state, and local levels, a more recent movement to integrate services for children has gained momentum across the nation (First, Curcio, and Young 1994). Alder (1994, p. 2) argues that this organizational reform is "based on the assumption that one cannot isolate a child's biological, psychological, and social needs and assign different organizations to meet each category of need." Despite increasing efforts to better integrate children's services, few delivery systems encompass a wide array of programs reflecting a comprehensive approach. Researchers, policymakers, community leaders, and professionals in the business of providing services to children continue to encourage more holistic approaches that recognize the natural links among the multiple types of children's services, particularly for children from at-risk or disadvantaged environments (Comer 1980, 1985, 1988; Garvin and Young 1994).

Comprehensive community-based support systems reflect an effort to expand current levels of service integration. These initiatives are broad-based approaches with a mission to coordinate a wide array of services and programs in the community to support children and promote community development and system change. It is important to recognize that there is no single model or specification of comprehensive community-based systemic reform; the configuration of the model is dependent upon the needs, values, and perspectives of the community in which it is developed and implemented. The boundaries or scope of the initiative are determined by the comprehensiveness of the model. Of most interest are fully comprehensive models that envelop the community's education, health, recreation, safety, and other domains.[1] Some of the provisions included in the model may already exist in the community (e.g., public schools, recreational programs, and police force) and are simply linked with the comprehensive support system. Others may be newly developed programs or interventions that are introduced through the model (e.g., after-school programs, summer camps, and community safety programs). In addition, activities supporting community development and system change (e.g., community mobilization activities, joint planning sessions, community forums, and informal interactions) constitute non-service components of fully comprehensive community-based support systems.

Proponents of this approach argue that it has the potential to be both more effective and more efficient than the relatively fragmented structure that has traditionally dominated the delivery of children's services. Its potential effectiveness stems from a recognition of the natural overlap among education, health, child care, recreation, and other children's services, and a consequent emphasis on the development of the whole person. Further, the focus on

[1] To the degree that the support system is a fully comprehensive initiative, any analysis of the model is necessarily a community-level analysis.

community involvement and community development has the potential to result in sustained effects at the individual level as well as long-term impacts at the community level (Garvin and Young 1994). The dual emphases on comprehensiveness and community also have the potential to contribute to the efficiency of the approach. Comprehensive approaches can be designed to minimize duplication of effort and expenditures in providing services (Garvin and Young 1994). Efficiency presumably can also be increased by providing services under fewer separate administrative units.[2] Further, the principles of decentralization and micro-management suggest that community-based initiatives have the potential to result in less waste, because programs are specially designed to meet the specific needs of a particular community (Ramirez, Webb, and Guthrie 1991).

As this approach has progressively taken shape, so has the literature base describing it. Some work has been conducted to document the characteristics of comprehensive community-based support systems (see Alder and Gardner 1994; Kagan et al. 1995) and a compendium of selected initiatives that approximate the approach has been developed (Hayes, Lipoff, and Danegger 1995). However, little attention thus far has been given to estimating the potential costs associated with these types of models. Several explanations may account for the absence of cost information. First, the lack of a single model representing the approach makes it difficult to assess its costs. Second, numerous resources devoted to models of comprehensive community-based support systems are difficult to value (e.g., volunteer time), which limits the applicability of conventional cost analysis tools. Third, identifying the most appropriate unit of analysis can be problematic because of the often unclear boundaries of the models, particularly more comprehensive models that not only provide new services but also coordinate a variety of existing community organizations (e.g., schools, health clinics, police force, and recreational centers). Finally, community diversity in the value and availability of the resources required for the model can limit the generalizability of what analyses are conducted. Despite these difficulties, it is clear that gaining a better sense of the costs associated with the approach is an important step in adopting and implementing new policies to support the delivery of children's services.

The multiple applications of cost analysis provide different types of valuable information to policymakers.[3] A cost-feasibility analysis provides information about the resources necessary for implementation and continued operation of a particular model in a particular community.[4] The relevant question addressed in a cost-feasibility analysis is, "Can we afford to implement and operate this program?" Estimating community-based cost to determine the cost-feasibility of a program is an essential step in deciding whether the initiative is a reasonable alternative to consider given the resource base of the community. In

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[2] On the other hand, a competing argument could be made that efficiency favors the existing system, due to economies of scale associated with larger (less community-based) organizations and bureaucracies.

[3] See Levin (1983) for a more detailed discussion of the various applications of cost analysis. Other useful descriptions of the methodology include Jamison, Klees and Wells (1978); Popham (1988); and Rothenberg (1975).

[4] Examples of cost feasibility analyses include King (1994) and Levin and Woo (1981).

addition, information on program cost is the first step in further analyses that integrate data on outcomes. Two methods that weigh the costs and outcomes of various alternative programs are cost-effectiveness[5] and cost-benefit analyses.[6] These approaches shift from feasibility issues to answer the question: "Should we support one program rather than another?" They have the potential to help policymakers determine whether comprehensive community-based support systems are, in fact, more effective and efficient than other alternative approaches.

Recognizing the importance of cost considerations, The Finance Project has commissioned this paper; it begins to conceptualize the costs associated with the implementation and operation of models supporting comprehensive community-based systemic reform. More specifically, this paper explores issues associated with assessing the costs of comprehensive community-based support systems and provides a template to guide local policymakers through a systematic consideration of the total and marginal costs of the resources necessary to operate such models in their own communities.[7] The template is intended to be a useful tool for policymakers in early planning stages--as well as those interested in monitoring the costs of initiatives already in operation--to gain a better sense of the types, amounts, and distribution of costs associated with various models of comprehensive community-based support systems. The template also can alert policymakers of opportunities to realize more efficient use of community resources.

I begin by reviewing basic components of cost analysis and discussing how the method must be sensitive to variability across different specifications of the model and a variety of community circumstances. Next, I describe the components of the cost template developed to guide local policymakers as they consider the costs of resources necessary to support the model. Then I apply the template to a hypothetical model of comprehensive community-based support systems, and I conclude by discussing topics that require further attention.

CONDUCTING A FLEXIBLE COMMUNITY-BASED COST ANALYSIS

No single model fully represents comprehensive community-based systemic reform; the specification of the model is dependent upon the needs, values, and perspectives of the community in which it is developed and implemented. Further, the cost of a particular specification of the model is dependent on the value and availability of productive resources in the community. These two sources of variability require a method for analyzing cost that is sensitive to site-based circumstances. After describing several concepts central to cost

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[5] Examples of cost-effectiveness analyses include Levin, Glass, and Meister (1984); Mayo, McAnany and Klees (1975); and Quinn, VanMondfrans, and Worthen (1984).

[6] Examples of cost-benefit analyses include Barnett (1985) and Stern, Dayton, Paik, and Weisberg (1989).

[7] The cost template developed in this paper is designed to estimate annual operating costs of comprehensive, community-based support systems once they are in place in a community. Future work will focus on estimating the costs of initiating, developing, and converting to these support systems.

analysis, I discuss the ways that the analysis presented here is particularly flexible to accommodate these sources of variability.

Defining the Terms of Cost Analysis

Many of the terms associated with cost analysis are widely used, but rarely discussed. Consequently, a useful first step in this study is to review several concepts central to cost analysis, such as opportunity cost, societal cost, marginal cost, and conversion/operating cost.

Opportunity Cost

Every program or initiative engages resources that could have been used in other ways. Cost analysis assesses the opportunity costs of all the resources devoted to the implementation and operation of a program. The opportunity cost of a particular resource (e.g., money, time, or space) is the value of the next best use of that resource, or the benefit forgone by using a resource in a particular way.

In many cases, the opportunity cost of a resource can be represented by its market value. The market value of a resource is based on the price of a good or service in an environment of buyers and sellers. If available, the market value is the best estimate of the opportunity cost of a resource. As Levin (1983, p. 64) describes, "The market price is a measure of what must be sacrificed in terms of the value of other commodities to provide the ingredient for the intervention." For example, the opportunity cost of a social worker is equal to the salary and benefits typically associated with the education and qualifications of that individual.

In other cases, however, there may be no explicit market value for a resource, so estimating opportunity cost is less straightforward. For instance, while a market value can be assigned to the time of social workers, it is more difficult to place a value on volunteer time. Most illustrative is the case of children, for whom the most valuable foregone opportunity may be learning rather than earnings.* Even if a market price is reasonable to estimate (e.g., volunteer or parent time), communities can be expected to vary in terms of the value of this time. A parent's time can be associated with high or low opportunity costs, depending on the individual (e.g., education level) or the community (e.g., employment opportunities). If we can reasonably assume that parents with high and low opportunity costs are evenly distributed across communities, then we need not be concerned with variation in opportunity costs. However, this assumption is far from representative of reality.

Many resources required to support social interventions can be difficult to value, but should be included in a thorough cost analysis (Monk and King 1993). The notion of

* While children and their parents are often the primary beneficiaries of comprehensive, community-based support systems, their participation is not without cost. The cost of their time spent engaged in these activities is equal to the value of the next best use of their time. Presumably, the benefits of participation outweigh the benefits forgone, but the cost must be considered as such.

opportunity cost provides a way for the analysis to extend beyond a study of expenditures to assess the total societal cost of a program or intervention.

Societal Cost

Opportunity costs are associated with all resources devoted to a program, and the sum of these opportunity costs constitutes the total societal cost of the program. A societal cost analysis recognizes that the program being studied involves costs not only to the public treasury,* but also to other actors in the community (e.g., time of volunteers and parents). Consequently, estimating the total societal cost of a program requires that the analyst go beyond tallying expenditures to consider the value of the multiple types of resources needed to support the program. The opportunity costs of a comprehensive community-based support system for children can be expected to range from the value of fiscal resources required to pay the salaries of health care professionals, to the value of the time spent by volunteers to serve as mentors to youth in the community.

A societal cost analysis of a program provides information on the full value of the resources devoted to the program and the ways in which the cost burden is distributed among various individuals and organizations. Without accurate and comprehensive data on societal cost, policymakers in the early planning stages of program implementation could be ill-equipped to judge whether or not the community has the appropriate levels of various types of resources to support the program. For instance, consider a program that is heavily dependent on the donated time of volunteers. A community lacking these resources may be well advised to consider other alternative programs with resource requirements that better match the resources available in the community.

In cases where the resources necessary to support the model are either unavailable or unproductive, substitutions may be feasible. For instance, if volunteers are required of the model but are not available in the community, individuals may need to be hired to fulfill the necessary duties. However, as will be discussed later, the process of substituting resources may have significant implications for the cost estimates constructed. Delineating the distribution of cost (i.e., who pays?) equips policymakers with a full slate of information needed to anticipate such community-based limitations.

Marginal Cost

Every community provides certain programs and services to its members. The "standard provision of services" often provided to children and families includes immunization programs, early child care, health services, recreational programs, housing assistance, and formal public education. Comprehensive community-based support systems are likely to include a number of these services that may already be provided in the community through other delivery systems. While the resources associated with these services are included in

* The term "public treasury" is used throughout this paper to represent the fiscal resources pooled from various public sources (e.g., tax revenues, public grants, federal allotments) to support the program.

estimates of the total cost of the model, a marginal cost analysis considers only those opportunity costs associated with resources that are incremental or in addition to the standard provision of services. In other words, a marginal cost analysis does not re-count the costs associated with resources already provided under the existing system of service delivery. Rather, the focus is on the net difference in cost between the "old" and "new" uses of a particular resource. Consequently, the relation between old and new services has implications for the marginal cost of the model.[10] Consider several possibilities.

First, it may be the case that the new services included in the model of comprehensive community-based support systems are provided alongside whatever is offered through the standard provision of services. Since these new services are add-ons to the standard provision of services, the marginal cost of the resources supporting these components of the model is simply equal to the sum of their opportunity costs. To the degree that similar services are provided in both support systems, this case may introduce inefficiencies resulting from the duplication of services.

A second case occurs when an existing service or program in the community is linked with the new comprehensive initiative. For instance, consider a comprehensive community-based support system that requires some type of youth recreational program. Suppose further that a particular community implementing this model has an active youth soccer program. Program designers and community leaders might determine that the existing soccer program can simply be linked to the overall initiative as the youth recreational component of the model. In this case, the marginal cost of the recreational program is equal to zero, so long as no additional resources are required to support the soccer program.[11]

Finally, a third possibility exists when programs included in the standard provision of services are discontinued and replaced by new service components in the comprehensive community-based support system. In this case, resources from the old program can be reallocated to support the new support system component. The marginal opportunity costs of these resources are equal to the difference in cost between the old and new programs. Consider Figure 1, where X is a program offered in a community's standard provision of services. The total societal cost of the resources supporting program X is $50,000. Suppose a comprehensive community-based support system is designed to replace program X with a new program, Y. The marginal cost of program Y is equal to the difference in the cost of program X and that of program Y.

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[10] Benefits are forgone when resources are reallocated from one program to support another. These forgone benefits must be included on either the cost or the benefit side of a full economic analysis of the programs. If included on the cost side, forgone benefits represent the cost to society of taking resources away from one program to support another. On the other hand, forgone benefits can be captured in an analysis of the marginal benefits of the program. In this analysis, I do not include forgone benefits resulting from reallocation of resources in the total societal cost estimate. These must be included in subsequent analyses of marginal benefits.

[11] There may, however, be costs associated with coordinating the existing programs with the overall initiative.

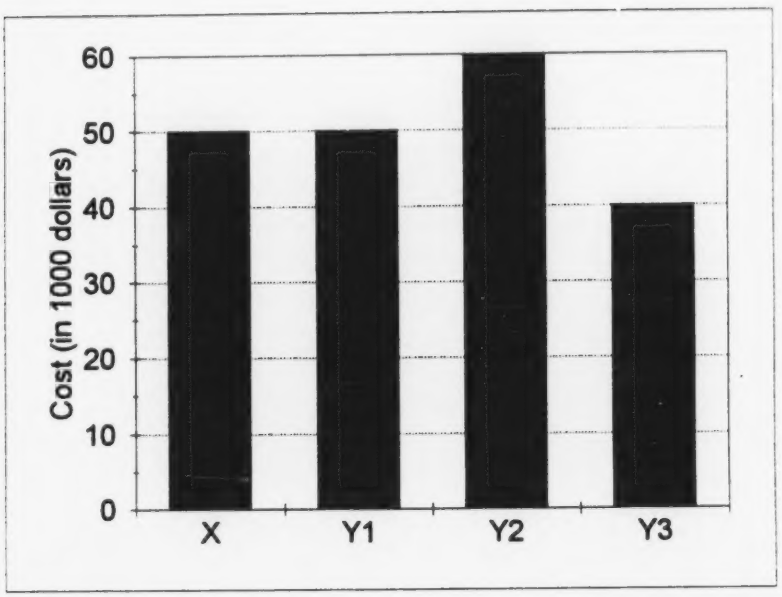

FIGURE 1
THREE SCENARIOS OF REALLOCATING RESOURCES FROM ONE PROGRAM TO ANOTHER: ASSESSING THE MARGINAL COSTS

The three variations of program Y depicted in Figure 1 result in different marginal costs. For instance, in the case of Y1, where all resources previously devoted to program X can be reallocated to cover the costs of program Y1, the marginal cost associated with Y1 is zero. In the case of Y2, where the cost of the new program exceeds that of the previous program, the marginal cost is equal to $10,000. Finally, the cost of the resources supporting program Y3 is less than that previously devoted to program X, resulting in a marginal cost of -$10,000. Consequently, when a pre-existing program is replaced by a new service component in a comprehensive support system, the degree to which existing resources can be reallocated to support new services has implications for the marginal societal cost of the model.[12]

Conversion Costs and Operating Costs

The cost of an initiative can be expected to change over time. For instance, the conversion costs associated with early stages of program implementation can be expected to be quite high relative to the continued annual operating costs of a fully implemented program. Conversion costs include the resources required for program development, system change, and employee training. In addition, it may take some time for new programs and services to replace old ones. For instance, there may be a period of time during which programs X and Y in Figure 1 must coexist before X phases out. Finally, the cost of the model can be expected to change as the emphasis of the initiative shifts from treatment to prevention. A new service system may involve high costs, that decrease at only a slow rate, during the early stages as the program treats and prevents at the same time. While this study recognizes that both conversion costs and operating costs are important to consider, the template developed in the paper focuses primarily on recurring annual operating costs of fully implemented models. Future work will focus on the estimation of the costs associated with converting to comprehensive community-based support systems.

Overview

In general, a marginal societal cost analysis first assesses the opportunity costs associated with all resources needed to support the program that are not currently required in the standard provision of services. The marginal costs from all sources are converted to a standard metric (usually dollars) and are summed to represent the total marginal societal cost associated with the intervention. Generalizability of the results of a cost analysis conducted at a particular site to secondary audiences is appropriate only to the extent that the assumptions and conditions applied in the original analysis hold across other communities utilizing the analysis (see Levin 1983).

The goal of this paper is to construct a framework that can be used by local policymakers across a variety of community settings to estimate the total and marginal societal cost of resources required to support various models of comprehensive community-

[12] The examples presented here assume that the forgone benefits associated with reallocating existing resources are reflected on the benefit side of the analysis in terms of marginal benefits.

based support systems. This requires an analysis that is sensitive to the diversity across the various specifications of the support system and communities of implementation. Below, I explain the two sources of variability and their implications for this cost analysis: (1) variability in the specification of the model, and (2) variability in community resources.

Variability in the Specification of the Model

Because comprehensive community-based support systems are motivated, designed, formulated, and implemented at the local level, there is considerable diversity across communities in the specification of the model. The design of the model presumably reflects the needs, values, and perspective of each community. Figure 2 illustrates how various service components can be combined or configured to form a model of integrated services for children and their families (Kagan et al. 1995, p.19). Six different service domains are included in the figure: (1) early childhood care and education, (2) health, (3) welfare, (4) elementary and secondary education, (5) justice, and (6) employment. Each of these domains is composed of a number of individual service components, although only for the early care and education service domain are shown in the figure. These components are typically offered individually in the traditional service delivery system, and they operate as the building blocks of an integrated approach. The components are configured in complex ways to form the various service domains, and together these domains constitute the integrated program.

Comprehensive community-based support systems have the potential to involve costs that extend beyond those associated with an integrated service model. The total cost of the support system includes costs associated with community development, system change, and services existing in the community that are linked with the initiative, as well as new services provided through the model. For now, however, the integrated service system presented in Figure 2 is sufficient to illustrate the potential for variability in the specification of comprehensive community-based support systems.

Two lessons follow from Figure 2. First, the numerous service components imply that a wide variety of specifications of comprehensive community-based support systems is possible. Based on the needs and preferences of the community, any set of service (and non-service) components can be integrated to form the initiative; these decisions have direct implications for the cost of the approach.

Second, the integration of components across and within service domains can result in a complex configuration of services that is quite different from a system in which similar services are delivered individually. This fundamental difference in approach can have direct implications for cost analysis. The left side of Figure 3 depicts the conventional process of utilizing cost-benefit data to select among various alternatives in a non-configured environment of service delivery. A particular community identifies a set of service domains and several alternatives within each. In this example the service domains are education and health, and three alternative programs are identified for each: E1, E2, and E3 for education, and H1, H2, and H3 for health. To decide on the most preferable alternative, a separate cost-benefit analysis is conducted within each service domain. For this example, assume that the

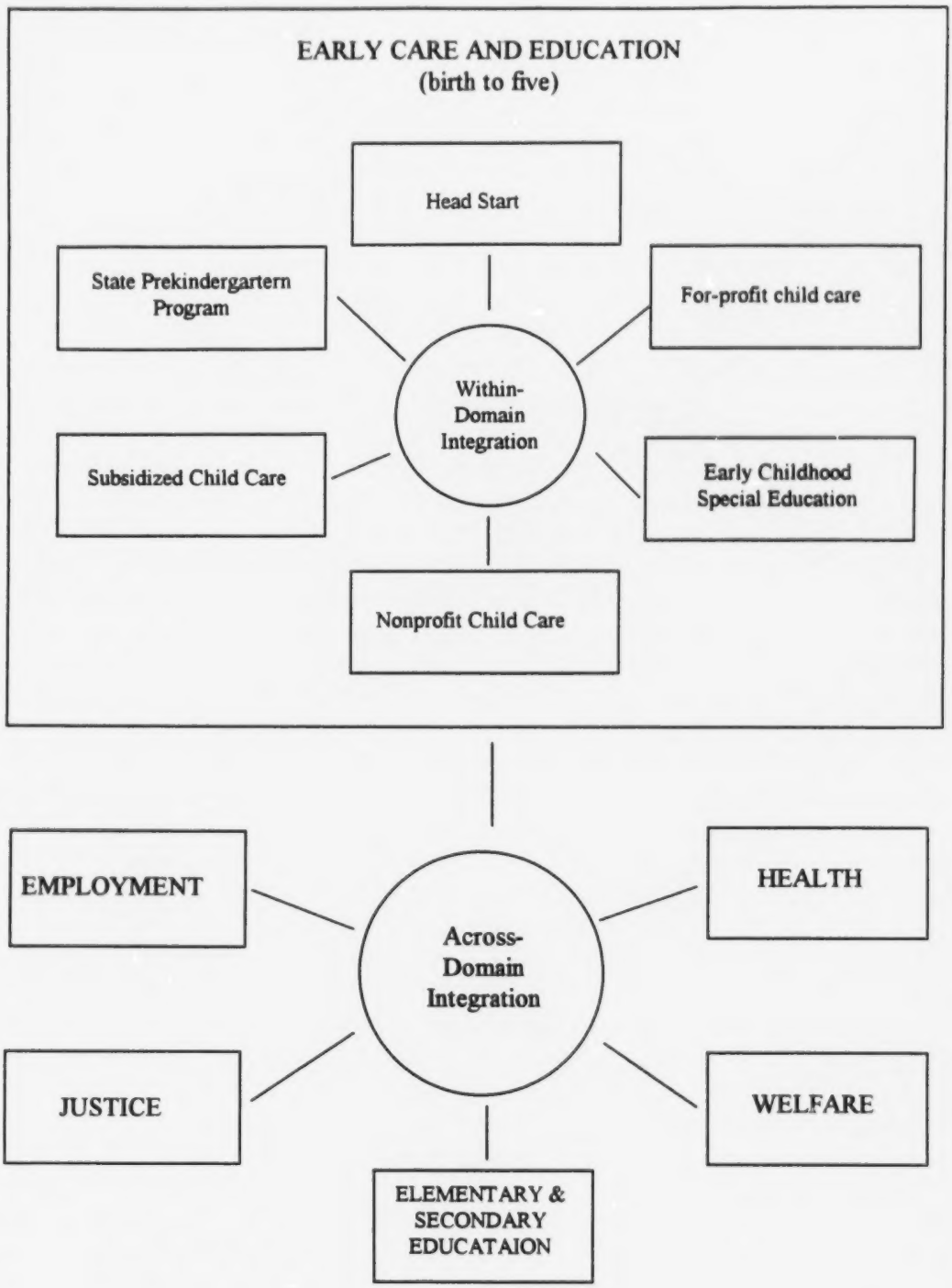

FIGURE 2
HUMAN SERVICE DOMAINS

Source: Kagan, et al., 1995

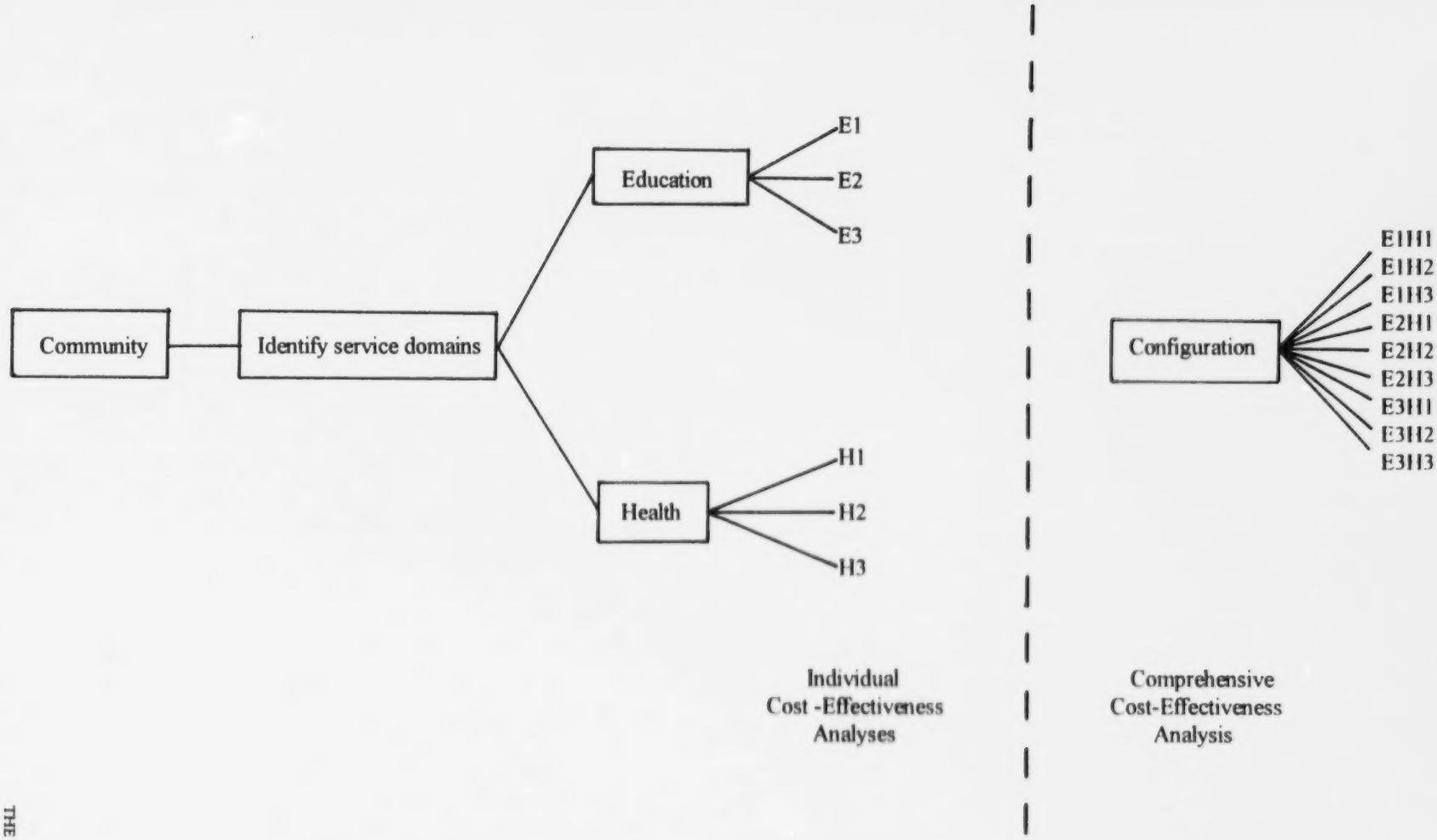

FIGURE 3
NEED FOR COMPREHENSIVE COST ANALYSIS OF COMPREHENSIVE PROGRAMS

most preferable alternatives in terms of cost-benefit ratios are E1 and H1 for education and health, respectively.

Next, consider a more comprehensive service delivery environment (right side of Figure 3). It does not follow from the individual cost analyses described above that simply combining E1 and H1 will result in the most cost-beneficial option. Rather, the complex interactions that are likely to occur among components in comprehensive support system may lead to very different results. For instance, H1 may cost little when combined with E2, but may be extremely costly if combined with E1. Consequently, the analysis must consider the various configurations of services rather than the individual service components.

One potential outcome resulting from complex configurations of services in a comprehensive community-based support system is increased efficiency. The integration of services can provide an environment in which the costs of various resources can be absorbed into the overall cost of the model. Figure 4 depicts the potential for comprehensive community-based support systems to absorb costs. Programs A, B, and C are three programs offered in a community's standard provision of services. The total annual societal cost of program A is equal to $50,000; the corresponding figures for programs B and C are $150,000 and $100,000, respectively. The fourth bar in the Figure simply stacks these three programs to illustrate that their total cost when offered individually is equal to $300,000. The next bar reflects the potential for absorption of cost when these programs are offered in a more comprehensive configuration (indicated by some function, *). For instance, a comprehensive community-based support system may involve legal advocacy services and housing assistance. Suppose both require full-time clerical assistance, but neither consumes all of the secretary's time at work. Presumably this secretary could cover both services at little or no additional marginal cost. The absorption of this resource (plus others) is illustrated in the reduced size of the final bar in Figure 4.[13] In other words, the cost of the configuration of model components is not the same as the sum of the cost of each individual component. The efficiencies that can be realized as service components are configured in complex support systems require new, more comprehensive approaches to cost analysis.

Variability in Community Resources[14]

Even in cases where identically configured support systems are implemented across several communities, the costs of the systems can be expected to vary according to the value and availability of productive community resources. In what follows, I describe how this analysis

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[13] While comprehensive, community-based support systems create conditions for resource sharing across program components, the degree to which communities realize these efficiencies is not clear. Further, when absorption does occur, the resulting efficiencies are not necessarily realized immediately--particularly given the resources that may be required to train individuals who will be responsible for tasks across multiple components of the support system.

[14] Much of this section is drawn from a recent paper by the author that expands on the methodology of "unpacking cost" (Rice 1995).

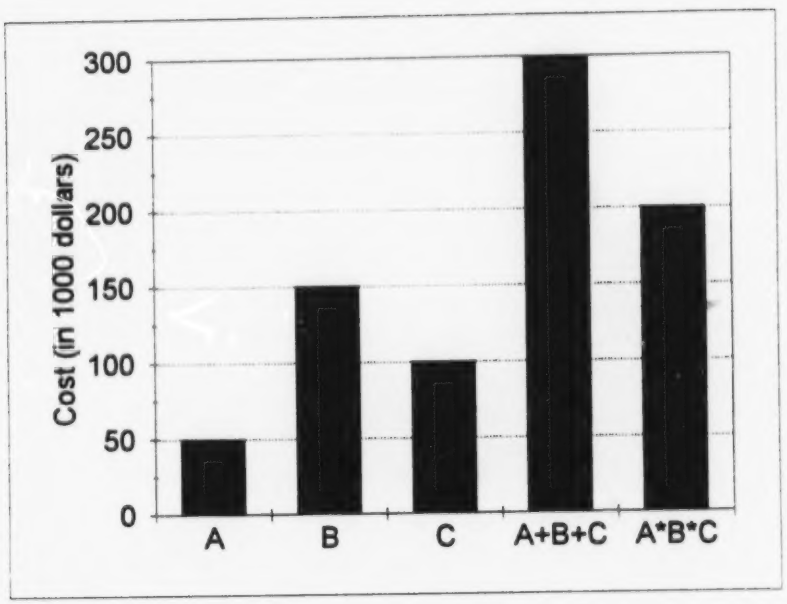

FIGURE 4
POTENTIAL FOR ABSORPTION OF COST

is sensitive to site-level circumstances and thereby has the potential to inform policy decisions across implementation sites.

First, since numerous difficult-to-value resources are required by models of comprehensive community-based support systems, the method used here relies on standard units of measurement to quantify the types of cost being estimated. Cost analyses often convert all costs (and sometimes effects as well, in the case of cost-benefit analysis) to a dollar metric. By allowing the use of standard units to quantify the amount of resources needed to support the model, the method used here leaves much flexibility for local decisionmakers to assign more accurate site-based estimates of the values of the various resources.

Second, the analysis facilitates a broad understanding of the distribution of the cost burden across various individuals and organizations in the community. Comprehensive community-based support systems involve costs not only to the public treasury, but also to a variety of players in the educational, medical, and other program areas, including parents, community volunteers, and local businesses and universities. The analysis emphasizes these categorical distinctions, recognizing that communities are likely to vary in terms of the availability and productivities of different types of resources.

Finally, since communities are likely to vary in terms of what productive resources are available to support the components of the new comprehensive support system, the method used here requires the listing of all of the resources devoted to the model and leaves flexibility to the local decisionmaker to determine what counts as marginal. The total marginal cost of the model is likely to decrease to the extent that the existing resources in the community can be reallocated to support the resource requirements of the model.

Rather than deriving a single bottom-line cost estimate, this method unpacks costs to provide local policymakers with a full array of estimates on the amount, value, sources, and distribution of the resources supporting the model. Local policymakers are granted the latitude to include the resources needed to support the specific configuration of the model being implemented, identify which costs are marginal, and assign values to these resources under the circumstances of their own communities.

CONSTRUCTION OF THE COST TEMPLATE

In this section, I develop a cost template to serve as a framework for assessing the support system cost at the local level. The template is designed to guide local policymakers as they assess the total societal and marginal costs of comprehensive community-based support systems in their own communities. The information generated in the template is site-specific and is not necessarily transferable across communities.[15] The topics described below

[15] While the approach is focused on community-based analysis, it also has the potential to inform policy at more aggregate levels. For instance, the first several columns of the template identify the components and resources of the model. To the degree that several communities share a similar specification of the model, this information can be generalized across sites. Further, the template is designed to provide information on the extent to which efficiencies are realized through absorption and reallocation of existing community resources. Insight into these issues has the potential to inform the initiative at aggregate levels.

represent the various columns of information included in the template, and are motivated by a series of questions intended to guide local policymakers to unpack the costs of the resources required to support the model. The issues included in the template are designed to be sensitive to variability in the model specification and community circumstances, as discussed above. An empty shell of the template is presented in Figure 5 and is referenced throughout this section.

I begin by describing the first two columns that identify the resources needed to support the model. Next, I review the set of columns that guide the analyst through the calculation of the total societal cost of these resources. The next several columns estimate the marginal cost of the resources, by adjusting for the reallocation of existing resources in the community. The following set of columns explores the distribution of the cost burden across various individuals and organizations. The final column focuses on how cost changes over time.

Identifying the Resources Needed to Support the Model

What Components and Services are Included in the Specification of the Model?

The first column of the template, "Components and Services," lists a set of categories to organize the various components of and services provided in the model. The first three categories are expected to apply to every model of comprehensive community-based support systems. These include "Infrastructure," "Space and Materials," and "Leadership." The next set of categories describe various service domains that may be represented in the model. These include "Counseling," "Housing Assistance," "Emergency Services," "Employment Programs," "School Programs," "Youth Programs," "Social Services," and "Other." The final two categories represent the non-service components of the model, including "Community Development" and "System Change." The specific support system components should be listed within these service categories.

Not all support systems will include components in all of the listed categories, and some categories may be missing from the template. However, this set of categories is intended to guide analysts through the process of constructing an organized list of the services and components in the model. The remainder of the analysis is highly dependent on the specification of the model as presented in this column.

What Resources are Needed to Support the Model?

The second column, "Ingredients," requests a list of the resources to be devoted to the implementation and operation of the model. The ingredients method (Levin 1983) requires the specification of all the support system inputs that are intended to contribute to the desired outcomes. This includes donated and volunteered resources, along with those that will translate into expenditures. It includes all types of personnel as well as non-personnel resources, such as facilities, equipment, and materials. The list of ingredients is highly dependent on the specification of the model, and guides the remainder of the template entries.

Figure 5: Cost Template for Comprehensive Community-Based Support Systems

COMPONENTS	INGREDIENTS	TOTAL SOCIETAL COST					MARGINAL COST		DISTRIBUTION OF COST						TIME
& SERVICES		amt.	unit value	period	absorb	total cost	reallocate*	marg cost	treasury	volunteers	business	parents	youth	Sub	
INFRASTRUCTURE															
SPACE/MATERIALS															
LEADERSHIP															
COUNSELING															
HOUSING															
EMERGENCY															
EMPLOYMENT															
SCHOOL PGMS															
YOUTH PGMS															
SOCIAL SERVICES															
OTHER SERVICES															
COMMUNITY DVMT															
SYSTEM CHANGE															

NOTES
Absorb = resources that are specified for several components of the model, but can be shared
Reallocate = resources from other programs that can be shifted to support the costs of the new model
Given the difficulties associated with valuing the time of youth, this column in the "Distribution of Cost" section is simply a placeholder.
SUB = Substitution; this column will be developed to estimate the feasibility/cost of substituting one resrouce for another
TIME = Time curve of the cost (implementation, operating, how cost changes over time)

* Benefits forgone resulting from the reallocation of existing community resources must be included on the benefit side of the analysis. Otherwise, an additional column should be added to this template reflecting forgone benefits.

It should be noted that in specifying ingredients, the most time and effort should be spent identifying those resources that constitute the majority of the support system cost. More specifically, personnel tends to account for at least two-thirds of the budget in typical education or social service interventions, so a great deal of attention should be devoted to careful specification of the requirements for this category of inputs. In contrast, supplies generally comprise no more than 5 percent of the total budget. A 20 percent error in the cost of a category that constitutes only 5 percent of the total cost translates in only a 1 percent distortion (Levin 1983). Consequently, little time should be spent quantifying the number of pencils and pens required for the initiative.

Valuing the Resources

The next task is to quantify the amount and value of each ingredient that is required for the model. This can be tricky, especially when there are no explicit market values associated with the ingredients listed. The next five columns guide the analyst through the process of calculating an annual societal cost of the resources supporting the model.

How Much of Each Resource is Required?

The first column in this section, "Amount," requests specification of the amount of each ingredient listed in the previous column. The resource amounts entered in this column should be left in their most natural units. For instance, personnel resources should be recorded in terms of the number of positions needed, while the time required of part-time volunteers might best be recorded in terms of hours per year. Likewise, required amounts of space, materials, and equipment should be identified in the most descriptive terms possible. The only restrictions are that the resources are specified on at annual basis (e.g., hours per year instead of hours per week) and that consistency be maintained within the various units. For instance, time may be best measured in hours per year, but whatever the measure, it should be used consistently for time.

What is the Unit Value of Each Ingredient?

The next column, "Unit Value," requests a dollar value for the ingredients listed. The figure entered should represent the value of the next best use of the resource required. The market value of the resources should be entered, if available. In the case of personnel, this should include annual salary as well as fringe benefits, bonuses, and other add-ons. If a market value is not available, an approximation or "shadow price" for the market value can be entered. The figure entered in this column must correspond with the units specified in the "Amount" column. For instance, if hours per year is the unit used in the "Amount" column, then the appropriate hourly wage should be entered in the "Unit Value" column. Likewise, if the number of positions is entered in the "Amount" column, then the annual salary for that type of position should be entered in the "Unit Value" column.

Recall that the value of these resources can be expected to vary across communities. Consequently, this column is the outlet for community-specific data on resource cost. For instance, in one community the annual salary and benefits of a social worker may total

$32,000, while in another the corresponding figure may be $50,000. In order to reach an accurate cost estimate, the figure entered in this column must be based on the circumstances of the particular community.

What is the Expected Life Span of Each Resource?

The next column, "Period," requests information on the recurrence of the cost. Some resources are required year after year, such as salaries and benefits for personnel. Other resources such as equipment may be used for a number of years and should not simply be added into the annual cost estimate each year. This column specifies the number of years over which the resource can be used. The number of years representing the expected life of the resource should be entered, with recurring annual costs designated as "1."

To What Degree Can the Resource be Absorbed Among Service Components?

The column titled "Absorb" requests information on the degree to which the same ingredient (e.g., a staff member) can be used across multiple service components. An adjustment must be made in cases when a single ingredient is specified in several service domains of the model, but in reality is shared across domains (e.g., clerical support, building facilities). Such resource sharing reflects efficiencies resulting from absorption in comprehensive community-based support systems, and should not be figured into the marginal cost of the model.

One method to adjust for absorption is to prorate the resource (e.g., time of the staff member) according to how much is spent on each component. This involves entering in the cell the amount not necessary due to absorption. However, when such detailed information is not available, an alternative option is to simply count the resource a single time. For instance, if a single secretary is shared across three service components, a "1" should be entered in the absorption cell for two of those components, so that this position is counted in the model only once. Again, the units used in this column must correspond with those used in the "Amount" column.

What is the Total Annual Societal Cost of the Resources?

The final column in this section, "Total Cost," presents a dollar figure representing the total annual societal cost of each ingredient. This information should be calculated using the entries in the previous four columns. In most cases, the appropriate formula is:[16]

Total Cost = [(Amount - Absorb) * (Unit Value)] / Period.

The figures in this column can then be summed to derive a total annual societal cost of the resources required to support the model. However, this bottom-line estimate is not as straightforward as it might appear and, in fact, is likely to be artificially inflated in terms of marginal cost. Many of the resources included in this estimate may not translate into marginal costs. Thus far in the analysis, no attention has been given to the potential for reallocating resources already existing in the community to support the resource

[16] This is an approximation of the annual cost because, for example, it does not consider depreciation of equipment.

requirements of the comprehensive support system. Further, many of the costs could be shouldered by volunteers or sources other than the public treasury, and may not translate into expenditures. Consequently, while the estimation of the total societal cost is a useful first step, proceeding with the analysis to reach a more comprehensive array of information about the cost of the model is potentially more instructive to local policymakers.

Adjusting for Marginal Cost

To What Degree Can Resources in the Community be Reallocated to Support the Model?
The first column in this section, "Reallocate," recognizes that some resources necessary in the model may already exist in the community, and could be reallocated to fit the requirements of the model. To the degree that resources used in the existing service delivery structure can be reallocated to support the cost requirements of the new initiative, the marginal cost of the model may decrease. For instance, consider a community in which a local organization has for many years secured a state grant to provide a summer sports camp for youth in the community. Suppose that a comprehensive community-based support system that includes a summer camp promoting the arts has recently been developed and implemented in the community. A reallocation of resources occurs if leaders of the comprehensive support system apply for and win the grant that previously supported the sports camp to provide the new summer camp for the arts.

The "Reallocate" column of the template presents the quantity of the required resource that can be reallocated from another source to support the comprehensive community-based support system. This figure can be entered either in fiscal units or in standard units of measurement (consistent with the units used in the "Amount" and "Absorb" columns).

What is the Total Societal Marginal Cost of Resources Devoted to the Model?[17]
The column marked "Marg Cost" presents the total marginal cost of the resources supporting the model. If the data entered in the marginal cost columns are presented in "natural units," this figure is:

Marg Cost = [(Amount- Absorb - Reallocate) * Unit Value] / Period.

If the information in the marginal cost columns is in fiscal units, the formula is:

Marg Cost = [Total Cost - Reallocate].

[17] As noted earlier in the paper, the total marginal cost does not include the forgone benefits resulting from the reallocation of resources from one program to support another. While these forgone benefits could be factored into the total marginal societal cost of the model, this analysis assumes that they will be considered in the analysis of the net marginal benefits associated with the model.

Distribution of Cost

How is the Cost Burden Distributed Across Different Constituencies?

Given the emphasis of the approach on community involvement, the burden of the various costs is often distributed across different individuals and organizations. For instance, the cost burden of a model may be shared by parents, community volunteers, regional businesses, local universities, or community colleges, in addition to the contribution of the public treasury. Further, parents and youth who participate in the services provided by a particular model also forgo some opportunity that is associated with a cost. The costs to the various supporters of and participants in the model are the focus of this set of columns of the template. The different categories listed in the template include: treasury, other agencies (government, private), volunteers, business, parents, and youth.[18] Others can be added.

The most optimal use of these columns is to specify the exact amount of a particular resource that the various constituencies are expected to shoulder. Specified in fiscal units, the entries across a row in this section should sum to equal the figure in the "Marg Cost" column of that same row. It is arguably of more use, however, to specify these amounts in the most natural (rather than only monetary) units. This type of descriptive information can provide local policymakers with insight into what type of support for the initiative is required of different actors in the community. Two options exist in cases when that support is not available: (1) substitution of another source for that which is not available in the community, or (2) omission of that particular component of the model. This is the focus of the next column in the template.

What is the Cost of Substituting Resources into the Model?

The column titled "Sub" recognizes diversity across communities in the availability of different types of resources necessary for the model. The focus is on issues related to the cost and feasibility of substituting one type of resource for another in the model. For instance, consider two initiatives that require parent inputs. The first requires that parents assist in the day care center lunchroom once each month to help defray the costs of hired personnel. The second requires that parents attend a monthly instructional session that helps them develop effective parenting skills. Suppose that parents are not available for the activities required of either model. In the first model, a variety of substitutes could presumably be arranged, either through other volunteers or expenditure from the treasury to hire the necessary help, with little impact on the model design. The second case, however, has the potential to present a more serious problem. It is unlikely that a substitute could fulfill the role of the parent in the required classes. The remaining issue concerns what it would cost the public treasury to gain parent attendance. If the cost is prohibitively high, the model (or at least this particular aspect of it) may be in jeopardy, because no other substitutes are feasible.

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[18] The "youth" column is intended to recognize the time of youth as a component of the total societal cost of the support system. However, the numerous difficulties associated with valuing the time of youth should not limit the use of the template.

The operation of this portion of the analysis remains to be fully conceptualized. Two central questions guide its development: (1) Is resource substitution a feasible alternative, given the goals and emphases of the model? and (2) What is the cost of substituting one resource for another?

Cost Curve Over Time

In some cases it is important to consider how the costs of an initiative change over time. Policymakers in the early planning stages may be interested in the degree to which the costs of a long-term initiative may decrease as the program takes root in the community. Further, those with programs under way may be wise to monitor the costs of the intervention over time to help guide decisions about the future development of the support system.

The costs of an initiative can be expected to change over time. For instance, programs are often associated with disproportionately high costs during the early stages of program implementation. This is especially the case for models of comprehensive community-based support systems, given the breadth and depth of the transformation required. Kadel and Routh (1994, p. 121) explain, "Implementing a new program in an organization is often a difficult matter. Changing the 'way we do things around here' is even more unsettling. Perhaps one of the most challenging changes of all, however, is implementing collaborative social service provisions, because it requires changes in the way a variety of organizations do things and involves simultaneous and complementary reform across systems." In addition to the profound (and costly) changes that must occur to fully implement comprehensive community-based models, high implementation costs may result from the duplication of services during the transition from one delivery system to another. As the new support system gradually begins to replace the old way of providing services, the marginal cost can be expected to decrease because of a decrease in the duplication of services (i.e., absorption of cost).

Once the major obstacles of implementing the initiative are overcome, costs can settle at a steady level to reflect the recurring operating costs of the support system. However, it is reasonable to expect peaks and valleys in the cost curve over time, due to the development of new service components or personnel issues. Consider the case of a new exciting initiative that receives much support and enthusiasm as it gets off the ground. Volunteers are eager to be part of this high-profile community support system. However, as time marches on, the enthusiasm of the volunteers wanes and the costs of staffing the initiative grow. These issues are the focus of the column on costs over time, which is included in the template but could benefit from additional development.

Discussion

The cost template presented in this section guides local policymakers to unpack the costs associated with resources needed to support various specifications of comprehensive community-based support systems. Several different types of information are provided in the template. Most noteworthy, the sum of the figures in the "Marg Cost" column yields an estimate of the total annual marginal societal cost of the resources required for the model in a

particular community (based on resource values entered by a local policymaker). This estimate represents the cost of additional resources needed to implement and operate the support system, relative to the community's standard provision of services. The analysis also provides information on the total societal cost (not adjusting for reallocation of existing resources), and the distribution of the cost burden across various individuals and organizations in the community. All of these estimates are dependent on site-based circumstances, and all can help guide local policymakers who are considering the annual operating cost of the support system models, as well as those who are monitoring support system costs over time.

The template provides information not only on the cost of the model, but also on how the initiative is operating in a particular community. For instance, while comprehensive community-based support systems presumably create conditions for a community to realize increased efficiency through absorption, the degree to which this actually occurs remains unclear. The template has the potential to highlight opportunities for absorption and resource-sharing across service components of the model. Further, information in the template can guide policymakers to redirect community resources to realize greater efficiency. If the total cost is approximately equal to the total marginal cost, it is likely that the model is not supported by the reallocation of existing resources. To the degree that similar services are provided in both the new and old support systems, this could be an indication of inefficiency resulting from the duplication of services. Aggregating these lessons across communities can provide information on more macro-level trends in terms of efficiency realization through comprehensive community-based support systems.

Finally, completion of the template can be viewed as a prerequisite for further analysis of models of comprehensive community-based support systems. Assessing the costs is a first step in subsequent studies that weigh the costs and outcomes of alternative models. Even when gaps in information prevent the completion of the template, the tool is useful in its power to prompt policymakers and community members to consider the amount and distribution of resources required for various components of the support system. Data gaps also indicate the types of information that must be collected to facilitate a better understanding of cost issues associated with comprehensive community-based support systems.

APPLICATION OF TEMPLATE TO ONE MODEL OF COMPREHENSIVE COMMUNITY-BASED SYSTEMIC REFORM

In this section I analyze the costs of a hypothetical model of comprehensive community-based support systems. This example is based heavily on information from an operating comprehensive community-based support system. However, the information presented here is based solely on a literature review and is at best an approximation of the true model.[19]

[19] Further plans of The Finance Project include site visits to collect the wide array of data necessary to fully apply the template.

Thus, I have chosen to present this as a hypothetical model to illustrate the application of the cost template.

It is important to recall that because there is no single model of comprehensive community-based support systems, the cost estimates generated by this example cannot be generalized. Rather, support system costs will vary depending on the specification of the model and on site-based conditions, such as the value and availability of resources in the community. Embedded in this analysis are many assumptions about the implementation community: the value of the resources devoted to the model, the efficiency of community leaders to realize potential efficiencies through absorption across components of the model, and the availability of existing resources for reallocation. Changing the conditions of the community would also change the cost estimates generated by the analysis.

Model X, the hypothetical comprehensive community-based support system used throughout this section, is a private nonprofit agency that provides a variety of services to families in a low-income multi-ethnic urban neighborhood. While primary emphasis is on counseling, the services provided by Model X have been developed in response to the needs in the community. This community-based support system was founded and is currently run by two individuals who are trained as clinical social workers and live on the premises. Much administrative assistance is provided by a local child care agency serving as a "parent" organization. Though autonomous in decisions about staffing, budgeting, and program development, Model X operates as a satellite of this larger organization in terms of administrative functions. Figure 6 presents the application of the cost template to Model X.

Services and Ingredients of Model X

The first step of the analysis involves identifying the components of and services included in the support system, and the ingredients required for those components and services. I begin with a description of the infrastructure, space, and leadership inputs, and then progress through the various services that the support system offers. The infrastructure for Model X is, by and large, supported by a local child care agency that serves as the parent organization for the support system. This includes activities such as administration, billing, and disbursement of funds.

Model X occupies a building in the community for general services, a storefront for emergency services, and a separate office of employment services. Also included in this section are the equipment and materials required to operate the support system.

The next category identified in the "Components and Services" column is leadership. Three key leaders--two from Model X and a third from the parent organization -- play central roles in the continuous development and implementation of the support system and its various service components. They are listed individually in the ingredients column, because without these particular individuals it is not clear that Model X would exist. In addition, Model X has an advisory board comprised of community members and agency leaders that provides advice and help with policy directions and access to funding sources.

The remainder of the categories listed in the "Components and Services" column are the various programs offered by Model X. First and foremost are counseling services. These

Figure 6: Application of the Cost Template to a Hypothetical Model

COMPONENTS	INGREDIENTS	TOTAL SOCIETAL COST					MARGINAL COST		DISTRIBUTION OF COST						TIME
& SERVICES		amt.	unit value	period	absorb	total cost	reallocate	marg cost	treasury	volunteers	business	parents	youth	Sub	
INFRASTRUCTURE															
Parent organization		12%	312000	1	0	312000	0	312000	X						
Administration															
Billing															
Disbursement															
Auditing															
Purchasing															
Accounting															
SPACE & MAT.															
Main services	main building	1	28000	1	0	28000	0	28000	X						
Emergency services	storefront	1	12000	1	0	12000	0	12000			X				
Employment office	office	1	12000	1	0	12000	0	12000			X				
Equipment	office machines		20000	10	0	2000	0	2000	X						
Materials	office supplies		1000	1	0	1000	0	1000	X						
LEADERSHIP															
Central leaders	Leader 1	1	40000	1	0	40000	0	40000	X	X					
	Leader 2	1	40000	1	0	40000	0	40000	X	X					
	Leader 3	1	20000	1	0	20000	1	0							
Advisory board	community	1040	10/hr	1	0	10400	0	10400		X		X			
	agency heads	312	20/hr	1	0	6240	0	6240		X	X				
COUNSELING															
Workshops	full time staff	43	40000	1	0	1720000	0	1720000	X						
Group activities	part time staff	49	20000	1	0	980000	0	980000	X						
Therapy sessions	volunteers	4160	10/hr	1	0	41600	0	41600		X	X	X			
Parents															
Infants															
Toddlers															
Adolescents															
Support groups															
HOUSING															
Short-term loans	revolving fund	1	20000	1	0	interest									
Networking	personnel	1	20000	1	1	0	0	0							
EMERGENCY															
Thrift shop	personnel	1	20000	1	1	0	0	0							
Food program	merchandise									X	X				
Advocacy clinic	food									X	X				
	lawyers	2	50000	1	0	100000	0	100000			X				

Figure 6: Application of the Cost Template to a Hypothetical Model

COMPONENTS	INGREDIENTS	TOTAL SOCIETAL COST					MARGINAL COST		DISTRIBUTION OF COST						TIME
& SERVICES		amt.	unit value	period	absorb	total cost	reallocate	marg cost	treasury	volunteers	business	parents	youth	Sub	
EMPLOYMENT															
PIC programs	director	1	40000	1	0	40000	1	0							
	case workers	5	20000	1	5	0	0	0							
	counselors	2	40000	1	2	0	0	0							
	clerical	1	20000	1	0	20000	1	0							
	liaison	1	20000	1	0	20000	0	20000	X	X					
SCHOOL PGMS															
Tutoring services	rdg. specialist	3	40000	1	0	120000	2	40000	X						
Recreational pgms	peer tutors	2	20000	1	0	40000	0	40000	X	X			X		
Evening programs	instructors	2	20000	1	0	40000	2	0							
Parent workshops	parents	1040	10/hr	1	0	10400	0	10400				X			
Performing arts															
YOUTH PGMS															
Summer day camp	director	2	5000	1	0	10000	2	0							
Teen camps	counselors	2	40000	1	2	0	0	0							
	camp staff	5	2000	1	0	10000	5	0							
	camp facilities	2	2000	1	0	4000	2	0							
						3639640		3415640							

NOTES

Absorb = resrouces that are specified for several components of the model, but can be shared
Reallocate = resources from other programs that can be shifted to support the costs of the new model
Given the difficulties associated with valuing the time of youth, this column in the "Distribution of Cost" section is simply a placeholder.
SUB = Substitution; this column will be developed to estimate the feasibility/cost of substituting one resrouce for another
TIME = Time curve of the cost (implementation, operating, how cost changes over time)

* Benefits forgone resulting from the reallocation of existing community resources must be included on teh benefit side of the analysis. Otherwise, an additional column should be added to this template to reflect forgone benefits.

include workshops, group activities, therapy sessions for parents and youth of all ages, and support groups. Staff who support these activities include full-time and part-time staff (including many social workers and counselors) and volunteers (including community members and graduate students from local colleges and universities).

Model X provides housing assistance in the form of short-term loans for security deposits, and networking efforts to locate reasonable and affordable housing to families having a difficult time doing so themselves. The support system offers several emergency assistance programs, including a thrift shop, an emergency food program, and an advocacy clinic to help community members with crises such as public assistance, Medicaid problems, and landlord-tenant disputes. Both the housing and emergency services require personnel such as case workers and lawyers. In addition to the space and materials requirements identified above, these emergency services require commodities for the thrift shop and food program.

On the employment front, Model X operates a program previously offered by the Private Industry Council (PIC) to foster employment readiness and general job training. The resources required for this program include a director, caseworkers, counselors, clerical staff, and a liaison between the program and the business community.

In addition, a number of programs are available for youth in the community. Model X offers several school programs, including tutoring services, recreational programs, evening programs, parent workshops, and performing arts events. These activities can be expected to require the time of a reading specialist, peer tutors, instructors, and parents. Several non-school related youth programs provided by Model X include summer day camp and teen camps. These services are likely to require the time and effort of a summer camp director, counselors, summer camp staff, and camp facilities.

Valuing the Marginal Societal Cost of the Resources

Once all of the resources needed to support Model X have been specified in the "Ingredients" column of the template, it is appropriate to assign values to them. The first step is to indicate the amount of each resource required. Recall, this should be left in the most natural and descriptive units possible. The value of administrative services of the parent organization is estimated at $312,000.[20]

Turning to space, materials, and equipment required for the model, the literature documents a recurring annual rent of $28,000 for the Model X building. In addition, annual rents of the emergency services storefront and the employment office are estimated at $12,000 each. The equipment category includes a number of purchases that are not required each year, such as computers, printers, and copy and fax machines. These items are estimated at a total of $20,000, but this figure is annualized over 10 years so that the per-year cost entered in the "Total Cost" column is $2,000. In contrast, materials include an array of office supplies that are purchased annually. These items are estimated at $1,000 per year.

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[20] This estimate is drawn from the literature on the actual model serving as the basis for this hypothetical example.

The leadership category is a difficult, but necessary one to include in the analysis. Three key leaders play central roles in the ongoing operation to the model. Two of these positions are full-time positions at a market value of $40,000 per year, and the third is part time at $20,000 per year.[21] In addition, the advisory board requires the time of 10 community members and three agency leaders to meet for two hours each week. This yields an "Amount" estimate for community members of 1040 hours per year (10 individuals * 2 hours/week * 52 weeks/year) and for agency heads of 312 hours per year (3 individuals * 2 hours/week * 52 weeks/year). In the hypothetical community where this model is operating, the average value of the time of community members is estimated at $10 per hour; the corresponding figure for agency heads is $20 per hour. These figures are entered in the "Unit Value" column.

Model X employs a staff of 43 full-time and 49 part-time individuals. These staff members presumably span many of the other program services in Model X, but are specified under the counseling category, because this is the most dominant and intensive service of the model. Salaries and benefits of full-time staff are estimated at $40,000 per year; the corresponding figure for part-time staff is $20,000 per year. The amount of time required of volunteers in the counseling program is specified in hours per year. I estimate that volunteers are needed for 80 hours per week, which translates into 4160 hours per year. The value of their time is estimated at $10 per hour.

The costs of the personnel resources required for the remainder of the service components of Model X are specified in a similar fashion. Estimates of the necessary amounts of various types of personnel are entered in the appropriate cells and are followed by the unit values of these resources. Several ingredients warrant individual consideration. In particular, further analysis is required to estimate the value of merchandise and food for the emergency programs.

To determine the total cost of Model X, adjustments for the resources absorbed into the model must be made. Since the full staff is specified in the counseling service domain, many of the additional hired professional resources are assumed to be absorbed into the model, as indicated in the "Absorb" column. More specifically, the counseling personnel listed in the categories of housing, emergency services, employment programs, and youth programs can be absorbed into the 92 staff counted in the counseling category, and thus need not be counted again. A "1" is entered in the "Absorb" column to indicate this resource-sharing across program components. The total annual cost of each ingredient is calculated in the "Total Cost" column. Adjusting for absorption yields a total societal cost of over $3.6 million. This figure is likely to be higher than expected, because no adjustments have been made for reallocation of resources or the distribution of cost; only part of this $3.6 million represents cost to the public treasury (reflected in the support system budget).

To the degree that resources used in the existing service delivery structure can be reallocated to support Model X's activities, the marginal cost of the support system decreases.

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[21] It could be argued that the model is dependent upon these particular individuals making the market value approach problematic in terms of leadership.

The issue of reallocation of existing resources is the focus of the column marked "Reallocate." In this example, I enter the amount of the resource that can be supported through reallocation. I estimate that in the particular community in which this model is operating, many of the personnel resources required for the employment, school, and youth programs can be supported by reallocating existing resources in the community. For instance, existing school staff can presumably assume the responsibilities of the instructors and two of the three reading specialists required of the model's school program. When these annual costs are subtracted from the total, the annual marginal cost estimate equals approximately $3.4 million.

Distribution of Cost

The cost of Model X is shouldered by a variety of individuals and organizations. The next set of columns in the template provides a framework for assessing how the costs are distributed across different constituencies. In this example, "X"s are entered to mark who will shoulder the cost of each ingredient. For instance, in this community, volunteers assume responsibilities in the areas of leadership and counseling programs. In addition, the lawyers for the advocacy clinic are volunteers. In a more extensive analysis, figures should be entered in these cells to indicate how much of each ingredient is provided by which providers. When the costs of all resources that are provided by sources other than the treasury are subtracted from the absorption-adjusted total annual cost estimate ($3.4 million), the resulting figure representing the cost to the public treasury is approximately $3.2 million.[22] This figure reflects the budgetary demands of the comprehensive community-based support system.

The application of the template to the hypothetical model illustrates the difference between a simple expenditure analysis (estimating only costs to the treasury) and a marginal societal cost analysis that includes costs to all members of the community. Presumably, the latter is far more informative for local policymakers at various stages of decisionmaking on annual operating costs of comprehensive community-based support systems for children.

CONCLUSIONS AND NEXT STEPS

This study represents a first step in conceptualizing the costs of comprehensive community-based support systems. The cost template developed in the paper provides a potentially useful tool for local policymakers in the early planning stages as well as those overseeing support systems already in operation to estimate the costs associated with the resources required for this type of initiative. More comprehensive information on the amount, value, and distribution of the various types of resources can inform community decisions about the adoption and continued development of comprehensive community-based support systems. While the work presented here has the potential to be quite useful, a number of issues warrant additional attention.

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[22] This figure is the sum of the marginal costs of the ingredients for which an X appears in the "Treasury" column.

Several components of the template developed in this paper are in need of further development. More time should be spent thinking about how to operationalize the longitudinal component of the study. While this paper recognizes the importance of studying how costs of multi-year models change over time, the template focuses on estimating annual operating costs of fully implemented models. Additional work should explore issues associated with estimating conversion costs and, more generally, the degree to which the cost of the initiative changes over time. In addition, identifying methods for estimating the costs associated with substituting one type of resource for another is required. The "Time" and "Sub" columns in this version of the template indicate the need for further consideration of these issues.

There is also a need to develop a deeper understanding of the costs associated with the community development component of the model. Presumably, comprehensive community-based support systems not only develop stronger communities, but also depend on community initiative and support. Strong and effective leadership and the commitment of community members are essential ingredients in this type of support model. However, estimating the cost associated with these types of resources is problematic at best.

An essential area in need of additional attention is the assessment of the marginal benefits of the model. The work presented in this paper assesses only the costs associated with the various resources required for the support system. However, the adoption of a new initiative at the expense of others (e.g., the replacement of old programs in support of the new comprehensive support system) inevitably involves costs in terms of forgone benefits. Consequently, a full economic cost analysis must also consider the marginal benefits of the model. This additional information would facilitate the comparison of a particular model with other models (including the community's standard provision of services). Emphasis should be placed on data collection, with special attention given to issues on the benefit side (e.g., how to measure benefits, and who is responsible for collecting and maintaining these data). Information on net benefits is essential and would contribute to more complete economic cost analysis.

Additional attention should be directed toward expanding the role of macro-level policymakers in estimating the costs of comprehensive community-based support systems. The approach presented in this paper is focused on site-based analysis. However, the template could also be useful at more macro levels to inform micro-level decisions about the adoption of particular models of comprehensive community-based support systems and to provide aggregate information on the initiative across the nation. By constructing a typology to categorize communities in terms of the various approaches to collaborative support systems, the utility of the template could be extended along two additional dimensions. First, communities could locate themselves in this typology and draw upon analyses conducted at more centralized levels to "adopt" the appropriate cost estimate for their community circumstances. Further, if the incidence of these various approaches could be estimated, a total societal cost could be calculated at an aggregate (rather than community) level. These more macro-level applications of the template warrant additional consideration.

A recommended next step of this work involves field-testing the cost template. This

activity would provide the opportunity to explore numerous issues further. Field-testing should focus on the applicability of the template and will assess the ability of practitioners not familiar with cost analysis to successfully use the template. Site visits might also explore the types of data required to complete the template alongside the types of data currently available on model costs and benefits. At more aggregate levels, field-testing could provide an opportunity to gain a realistic assessment of the actual prospects for efficiencies to be realized through absorption and reallocation.

Finally, once the template has been fully developed, tested, and refined (and hopefully expanded to include the benefit side), attention should be devoted to making the tool more user-friendly for those at the local levels. It is at this level that the richest information on support system cost is available; thus, efforts should be made to facilitate cost evaluations conducted at the local level. One option is to develop computer software capable of guiding the analyst through the various stages of the analysis, prompting for information and providing additional explanation of terms where necessary. Creation of a user-friendly tool to estimate costs can be expected to provide valuable information to members of local communities as they make decisions about the adoption, implementation, and continued development of comprehensive community-based support systems.

BIBLIOGRAPHY

Alder, Louise and Gardner, Sid. (1994). *The Politics of Linking Schools and Social Services.* Washington D.C.: Falmer Press.

Alkin, Marvin C. and Solmon, Lewis C. (1983). Conducting benefit-cost analysis of program evaluation. In Marvin C. Alkin and Lewis C. Solmon (Eds.), *The Costs of Evaluation.* Beverly Hills: Sage Publications.

Alkin, Marvin C. and Stecher, Brian. (1983). A study of evaluation costs. In Marvin C. Alkin and Lewis C. Solmon (Eds.), *The Costs of Evaluation.* Beverly Hills: Sage Publications.

Barnett, W. Steven. (1985). Benefit-cost analysis of the Perry Preschool Program and its policy implications. *Educational Evaluation and Policy Analysis,* 7(4), 333-342.

Catterall, James. (1988). Estimating the costs and benefits of large scale assessments: Lessons from recent research. Paper presented at American Educational Research Association Annual Meeting.

Comer, James P. (1988). Educating poor minority children. *Scientific American,* 259(5), 42-48.

Comer, James P. (1985). Empowering Black children's educational environment. In Harriette P. McAdoo and John L. McAdoo (Eds.), *Black Children: Social, Educational, and Parental Environments,* Beverly Hills, CA: Sage.

Comer, James P. (1980). *School Power.* New York: Free Press.

Denton, Jon J. and Smith, Nick L. (1985). Alternative teacher preparation programs: A cost-effectiveness comparison. *Educational Evaluation and Policy Analysis,* 7(3), 197-205.

First, Patricia F., Curcio, Joan L., and Young, Dalton L. (1994). State full-service school initiatives: New notions of policy development. In L. Alder and S. Gardner (Eds.), *The Politics of Linking Schools and Social Services* (pp. 63-74). Washington D.C.: Falmer Press.

Friedlander, Daniel and Gueron, Judith M. (1990). Are high cost services more effective than low cost services? Evidence from experimental evaluations of Welfare-to-Work programs. Paper prepared by Manpower Demonstration Research Corporation.

Garvin, James R. and Young, Alma H. (1994). Resource issues: A case study from New Orleans. In L. Alder and S. Gardner (Eds.), *The Politics of Linking Schools and Social Services* (pp. 93-106). Washington D.C.: Falmer Press.

Haller, Emil. (1974). Cost analysis for educational program evaluation. In W. James Popham, (Ed.), *Evaluation in Education: Current Applications*. Berkeley, CA: McCutchan Publishing Corporation.

Hayes, Cheryl D., Lipoff, Elise and Danegger, Anna. (1995). Compendium of Comprehenive, Community-based Initiatives: A Look at Costs, Benefits, and Financing Strategies. Working paper for The Finance Project, Washington D.C.

Jamison, Dean T., Klees, Stephen J., and Wells, Stuart J. (1978). *The Costs of Educational Media: Guidelines for Planning and Evaluation*. Beverly Hills: Sage Publications.

Kadel, Stephanie and Routh, Dorothy. (1994). Implementing collaborative services: New challenges for practitioners and experts in reform. In L. Alder and S. Gardner (Eds.), *The Politics of Linking Schools and Social Services* (pp. 121-134). Washington D.C.: Falmer Press.

Kagan, Sharon L., Goffin, Stacie G., Golub, Sarit A., and Pritchard, Eliza. (1995). *Toward Systemic Reform: Service Integration for Young Children and Their Families*. Falls Church, VA: National Center for Service Integration.

King, Jennifer A. (1994). Meeting the educational needs of at-risk students: A cost analysis of three models. *Educational Evaluation and Policy Analysis*, 16(1), 1-19.

Klees, Steven J. and Wells, Stuart J. (1983). Economic evaluation of education: A critical analysis in the context of applications to educational reform in El Salvador. *Educational Evaluation and Policy Analysis*, 5(3), 327-345.

Levin, Henry. (1983). *Cost-Effectiveness: A Primer*. London: Sage.

Levin, Henry M., Glass, Gene V., and Meister, Gail R. (1984). Cost-effectiveness of four educational interventions. Institute for Research on Educational Finance and Government, Project Report No. 84-A11.

Levin, Henry and Woo, Louis. (1981). An evaluation of the costs of computer-assisted instruction. *Economics of Education Review*, 1(1), 1-25.

Long, David and Casper, Emma. (1987). The benefits and costs of serving AFDC subgroups in welfare employment programs. Paper prepared by Manpower Demonstration Research Corporation.

Mayo, John K., McAnany, Emile G., and Klees, Stephen J. (1975). The Mexican Telesecundaria: A cost-effectiveness analysis. *Instructional Science*, 4, 193-236.

Monk, David H. (1992). The costs of large scale performance assessment: Conceptual issues and preliminary estimates. Draft.

Monk, David H. and King, Jennifer A. (1993). Cost analysis as a tool for education reform. In Steven Jacobson (Ed.), *Reforming Education* (pp.131-150). Corwin.

Popham, James W. (1988). *Educational Evaluation*. Englewood Cliffs, NJ: Prentice Hall.

Quinn, Bill, Van Mondfrans, Adrian, and Worthen, Blaine R. (1984). Cost-effectiveness of two math programs as moderated by pupil SES. *Educational Evaluation and Policy Analysis*, 6(1), 39-52.

Ramirez, Raphael, Webb, Florence R., and Guthrie, James W. (1991) Site-based management: Restructuring decision making for schools. In James R. Bliss, William A. Firestone, and Craig E. Richards (Eds.), *Rethinking effective schools: Research and practice*. Englewood Cliffs, NJ: Prentice Hall.

Rice, Jennifer King. (1995). The economics of school reform for at-risk students: Unpacking costs for micro level policy decisions. Paper presented at the annual meeting of the American Education Research Association.

Rothenberg, Jerome. (1975). Cost-benefit analysis: A methodological exposition. In Marcia Guttentag and Elmer Struening (Eds.), *Handbook of Evaluation Research*, Vol. 2, Beverly Hills: Sage Publications.

Scriven, Michael. (1983). Costs in evaluation. In Marvin C. Alkin and Lewis C. Solmon (Eds.), *The Costs of Evaluation*. Beverly Hills: Sage Publications.

Sheffer, Ethel. (1992). *The Center for Family Life and the Sunset Park Community*. Surdna Foundation, Foundation for Child Development, 1992.

Solmon, Lewis C. and Fagnano, Cheryl. (1988). Speculations on the benefits of large scale teacher assessment programs, or how 78 million dollars can be considered a mere pittance. Paper presented at the annual meeting of the American Educational Research Association.

Stern, David, Dayton, Charles, Paik, Il-Woo, and Weisberg, Alan. (1989). Benefits and costs of dropout prevention in a high school program combining academic and vocational education: Third-year results from replications of the California Peninsula Academies. *Educational Evaluation and Policy Analysis*, 11(4), 405-416.

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The Finance Project is a national initiative to improve the effectiveness, efficiency, and equity of public financing for education and other children's services. With leadership and support from a consortium of private foundations, The Finance Project was established as an independent nonprofit organization, located in Washington, DC. Over a three-year period that began in January 1994, the project is undertaking an ambitious array of policy research and development activities, as well as policymaker forums and public education activities.

Specific activities are aimed at increasing knowledge and strengthening the nation's capability to implement promising strategies for generating public resources and improving public investments in children and their families, including:

- examining the ways in which governments at all levels finance public education and other supports and services for children (age 0-18) and their families;
- identifying and highlighting structural and regulatory barriers that impede the effectiveness of programs, institutions, and services, as well as other public investments, aimed at creating and sustaining the conditions and opportunities for children's successful growth and development;
- outlining the nature and characteristics of financing strategies and related structural and administrative arrangements that are important to support improvements in education and other children's services;
- identifying promising approaches for implementing these financing strategies at the federal, state and local levels and assessing their costs, benefits, and feasibility;
- highlighting the necessary steps and cost requirements of converting to new financing strategies; and
- strengthening intellectual, technical, and political capability to initiate major long-term reform and restructuring of public financing systems, as well as interim steps to overcome inefficiencies and inequities within current systems.

The Finance Project is expected to extend the work of many other organizations and blue-ribbon groups that have presented bold agendas for improving supports and services for children and families. It is creating the vision for a more rational approach to generating and investing public resources in education and other children's services. It is also developing policy options and tools to actively foster positive change through broad-based systemic reform, as well as more incremental steps to improve current financing systems.

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